



TOMOS **FLEXER**

USER'S MANUAL
NAVODILO ZA UPORABO
HANDBUCH

**TOMOS
USER'S MANUAL
FLEXER 45**

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WARNINGS

Prior to operating the vehicle, carefully read this User's Manual in order to get acquainted with its operational characteristics and safe and proper operation.

1. Fuel is extremely flammable and explosive; therefore it requires special handling precautions:

- Stop the engine prior to refilling the tank;
- Fill the tank outdoors; never approach the tank with a lit cigarette, open flame or sparks; and
- Thoroughly wipe off any spilled fuel

2. The engine should not be run in an enclosed space or nearby entrances to lower-level areas (cellars etc.). Engine exhaust gases are toxic and denser than normal atmospheric air.

3. When starting or running the engine, never touch the ignition coil, high voltage cable, ignition spark plug cap or other parts of the electrical system.

4. The vehicle is equipped with a catalysts exhaust system causing high temperatures. When the engine is running and for some time after it has stopped do not touch its hot parts: the cylinder, the cylinder head, exhaust silencer. Do not touch the brake components too.

5. When the engine is running beware of the engine's rotating parts. No modification of the vehicle, stripping-off any parts or installing non-original spare parts is permitted. The vehicle owner is specifically warned that any modification to the exhaust system can only result in

the vehicle's deteriorated operation, without any positive effects on engine performance and causes higher air pollution.

RIDING SAFETY TIPS

Riding a two Wheeler is simple, yet it requires some skills and experience which can only be accumulated progressively. Prior to each ride, observe the following rules:

- 1.** Check the proper functioning of all vehicle assemblies.
- 2.** When riding, wear light-colored, preferably light-reflective clothes; ride with your lights on; avoid riding in other drivers "blind spots" to prevent danger of other drivers "overlooking" you.
- 3.** Abide by all traffic regulations; above all, adjust your riding speed to the road conditions and your skill level.
- 4.** Do not hand the vehicle over to any inexperience riders.
- 5.** Prior to changing lanes, always check that this can be done safely, and signal your intention in time. Be careful when riding through road crossings or passing other vehicles (including parked vehicles)..
- 6.** Always ride with your helmet on, be properly dressed and wear boots.
- 7.** Pay due attention to what is going on in front of you and behind you (rear mirror) and try to anticipate events
- 8.** The braking affects the loading on each wheel: the front braking increases; whereas braking with the rear brake only increases the braking distance while also reducing vehicle stability; hence use the rear brake with caution.

TECHNICAL SPECIFICATIONS

Model Flexer 45

Variants

- A24B – 45km/h
- A24C – 30km/h
- A24D – 25km/h
- A24E – 20km/h

Engine

Type	single-cylinder, two-stroke air-cooled
Displacement	49 cm ³
Cylinder bore diameter	38 mm
Piston stroke	43 mm

VARIANT A24B:

Compression ratio	10 : 1
Engine power	1,7 kW at 4800 min ⁻¹
Torque	3,6 Nm at 3500 min ⁻¹
Maximum speed	45 km/h
Fuel consumption	1,8/100km

VARIANT A24C:

Compression ratio	6 : 1
Engine power	1,0 kW at 3500 min ⁻¹
Torque	3,1 Nm at 2500 min ⁻¹
Maximum speed	30 km/h
Fuel consumption	2,2/100km

VARIANT A24D:

Compression ratio	6 : 1
Engine power	1,0 kW at 3500 min ⁻¹
Torque	3,1 Nm at 2500 min ⁻¹
Maximum speed	25 km/h
Fuel consumption	2,5/100km

VARIANT A24E:

Compression ratio	6 : 1
Engine power	1,0 kW at 3500 min ⁻¹
Torque	3,1 Nm at 2500 min ⁻¹
Maximum speed	20 km/h
Fuel consumption	2,8/100km

Starter Electric (version)
Kick-starter or pedals 12V 170W

Fuel	Tank capacity Engine oil reservoir	3,5 l (incl. 0,5 l reserve) 800 cm ³	Direction indicator signal light Oil level signal light Low beam signal light Main beam signal light Battery (version) Fuse (version)	12V 1,5W 12V 1,5W 12V 1,5W 12V 1,5W 12V 4Ah 8A
Suspension	Front forks travel Rear shock absorber travel	70 mm 35 mm		
Wheels	Front tire dimensions Rear tire dimensions	2 ½ -16 2 ½ -16	Dimensions And weights	Wheelbase Total length of vehicle Vehicle mass (empty fuel tank) Maximum permitted total weight
	Front tire inflation pressure Rear tire inflation pressure	2,2 bar 2,2 bar		1.080 mm 1.640 mm 59 +3 kg 160 kg
Electrical system	Magneto Spark advance Spark plug-A24B Spark plug-A24C, A24D, A24E Spark plug electrode clear. Headlight Tail light Stop light Speedometer illumination Direction indicators (version)	12V 80W preset Bosna F75, BOSCH-W7AC Bosna F75, Champion-L86 0,8 mm 12V 25W/25W + 12V/4W 12V 5W 12V 15W 12V 2W 12V 10W		

TECHNICAL DESCRIPTION

- 1.** Rear brake lever
- 2.** Direction indicator switch (version)
- 3.** Horn switch
- 4.** Main beam/low beam switch
- 5.** Speedometer
- 6.** STOP switch
- 7.** Electric start pushbutton (version)
- 8.** Throttle lever
- 9.** Front brake lever
- 10.** Direction indicator signal light (version)
- 11.** Oil level signal light (version)
- 12.** Main beam signal light
- 13.** Low beam signal light
- 14.** Luggage carrier
- 15.** Engine oil reservoir, cap (version)
- 16.** Battery (version)
- 17.** Contact key lock-left side (version)
- 18.** Fuel filling vent
- 19.** Fuse (version)
- 20.** Air filter
- 21.** Carburetor, choke
- 22.** Fuel petcock
- 23.** Oil pump
- 24.** Fuel tank cap
- 25.** Steering lock
- 26.** Kick starter lever or pedals
- 27.** Chain tension adjuster

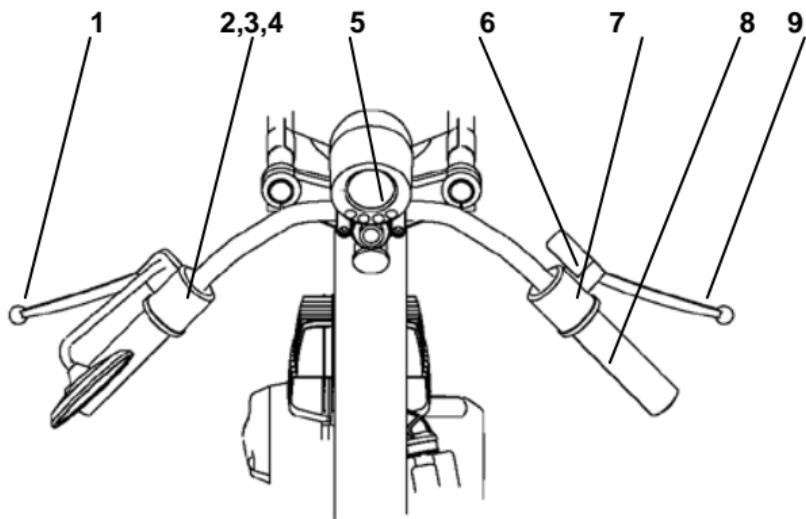


Fig. 1

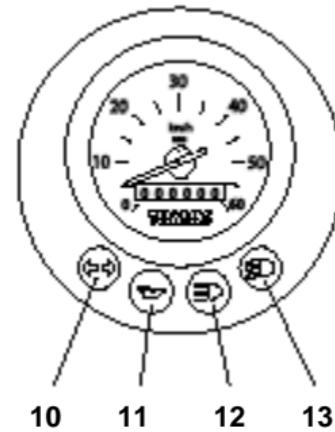


Fig. 2

14 15 16 17 18 19 20 21 22 23 24 25

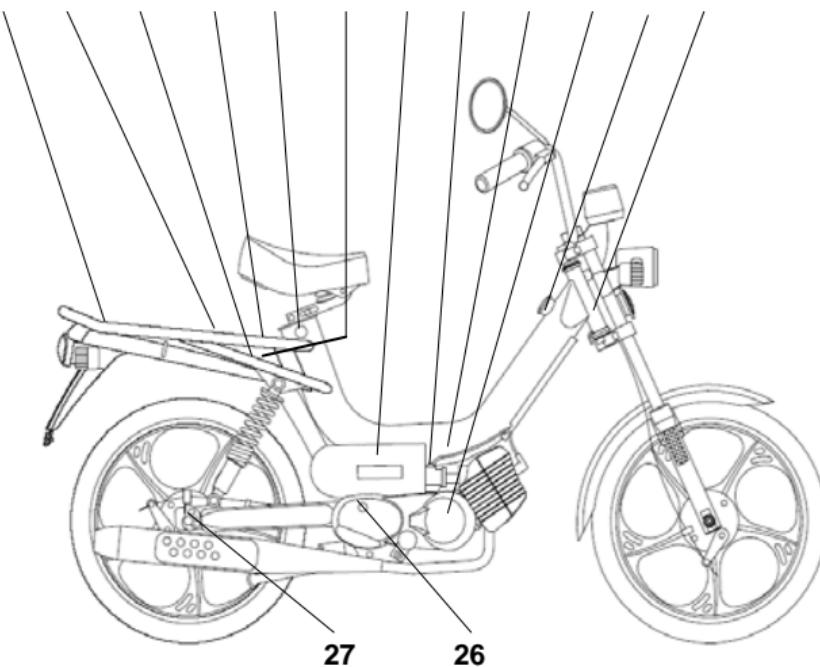


Fig. 3

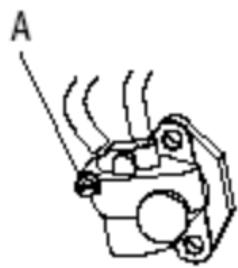


Fig. 4

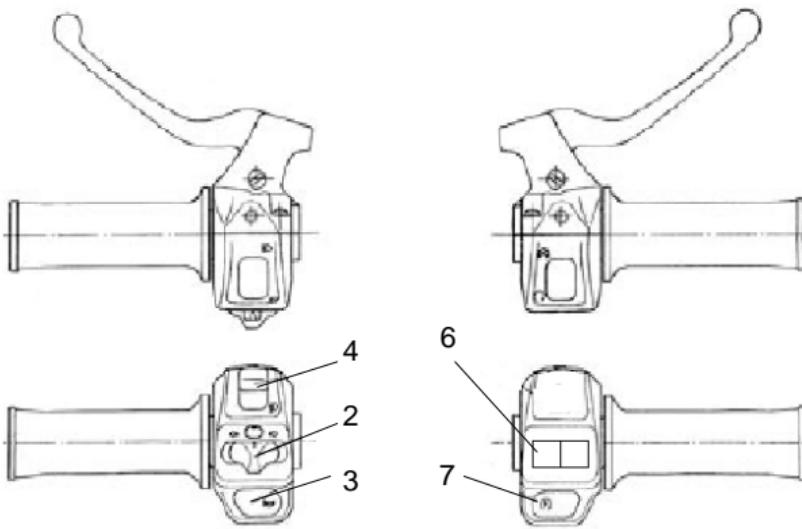


Fig. 5

VEHICLE OPERATION

Fuel

EUROSUPER 95 and two-stroke engine oil.

Your vehicle is equipped with an oil pump, which adds a specified amount of oil to the petrol (approx. 2%). Pour two-stroke oil into the separate oil reservoir (15, Fig. 3) - approximately 0,8 liter.

Use only high quality fully synthetic two-stroke oil.

CAUTION!

Prior to starting the engine for the first time, fill the fuel tank (24, Fig. 3) with approx. 1 liter mixture of two-stroke oil and gasoline in the ratio of 1:50 (2%), then start the engine and let it run for at least 8 minutes in order to allow the oil pump to fill the suction pipe.

Before this take off the oil pump cover (23, Fig. 3) and unscrew the bolt on oil pump (A, Fig. 4) and wait till oil comes from reservoir. Tighten the bolt.

Engine starting

Open the fuel cock (Fig. 6). Note: A – fuel supply shot, B – fuel supply on, C - reserve.

If the engine is cold, press the cold start lever (B, Fig. 7).

Kick start version:

With the throttle fully closed, press the rear brake lever and press the kick-starter lever (26, Fig. 3) – without opening the throttle.

If starting the engine when it is still warm, the throttle must be fully opened.

Pedal version:

With the throttle fully closed, press the rear brake lever and press the pedals (26, Fig. 3) backwards – without opening the throttle.

If starting the engine when it is still warm, the throttle must be fully opened.

Electric starter version:

Enter the key in the ignition switch (17, Fig. 3) and turn it to the ON position. Switch on the stop switch (6, Fig. 5). With the throttle fully closed, press the rear brake lever and press electric start pushbutton (7, Fig. 5).

Caution: If the engine on the electric start version fails to start, release the starter pushbutton. This prevents the battery from draining. Do not keep the engine start pushbutton depressed longer than 5 seconds. Should the electric starter fail to start the engine start the engine by using the kick-starter lever or pedals (depending on version).

When using the choke, allow the engine to run for 10 to 20 seconds without opening the throttle. The choke start lever disengages automatically when the throttle is opened.

In the case the engine is hot do not use the choke lever.

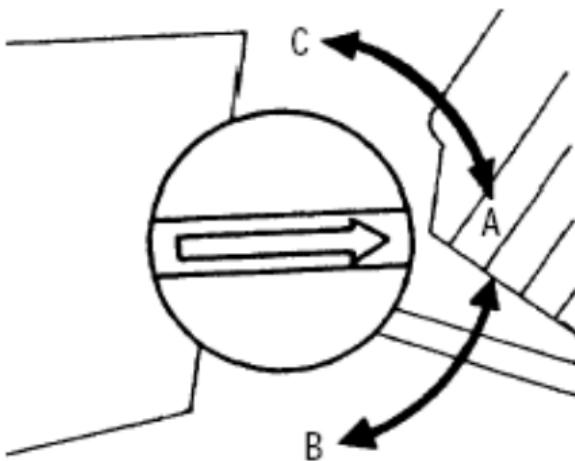


Fig.6

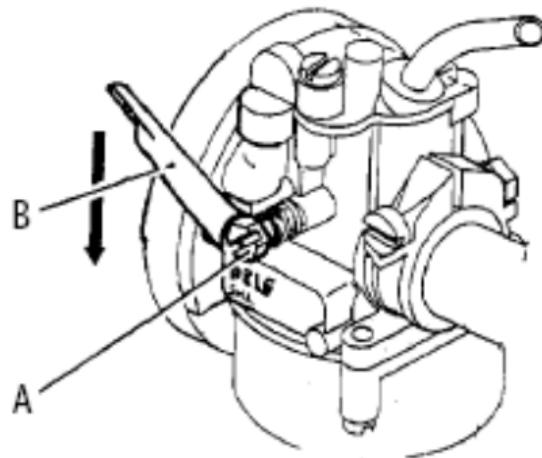


Fig. 7

Riding

The speed is controlled by the throttle lever (8, Fig. 1). Engaging the first or second gear is done by opening or closing the throttle. Avoid switching too frequently between first and second gears. In such situation you should instead reduce the throttle opening and keep the vehicle in first gear. When descending a slope, shortly open the throttle from time to time in order to improve lubrication and headlight operation. The vehicle is shut down by closing the throttle lever and switching the STOP button to the position off (6, Fig. 5). Then close the fuel cock (position A, Fig. 6)! If the vehicle is to stay out of operation for a longer period (e.g. during winter), draining of the fuel from the carburetor cup in the following way is recommended: close the fuel cock and, by opening the throttle lever, let the engine run out automatically.

Engine Running-in

Do not run the engine at full throttle during the initial 100 km. Later increase the engine loading progressively.

MAINTENANCE

Maintenance Operations

The vehicle is easy to maintain, yet maintenance is imperative for perfect performance. Particularly important operations include regular lubrication of individual assemblies, gearbox oil changes, cleaning of parts affecting engine operation (spark plug, exhaust system, fuel system) and checking of safety-related riding components (tire pressure, operation of lights and brakes, tightness of bolts and nuts). The maintenance table defines maintenance works in certain intervals in km and months - **consider whichever comes first** - for the period up to 20.000 km or 24 months.

Lubricants

For the gearbox apply the automatic gearbox oil: ATF A or ATF F. For lubrication of other vehicle components (see the maintenance schedule), application of SAE 30 grade engine oil and LIS 2 grease is recommended.

Gearbox Oil Change

Oil should be changed when the engine is still warm. Remove the right side shield; release three threaded plugs (1, 2, 3, Fig. 8) on the right side of the engine casing, and let the oil drain completely. Retighten oil draining plug (3, Fig. 8) and pour approx. 300 cm³ of oil through the

refilling opening (1, Fig. 8), so that oil level reaches the control opening (2, Fig. 8). Then, retighten the oil refilling and control opening plugs.

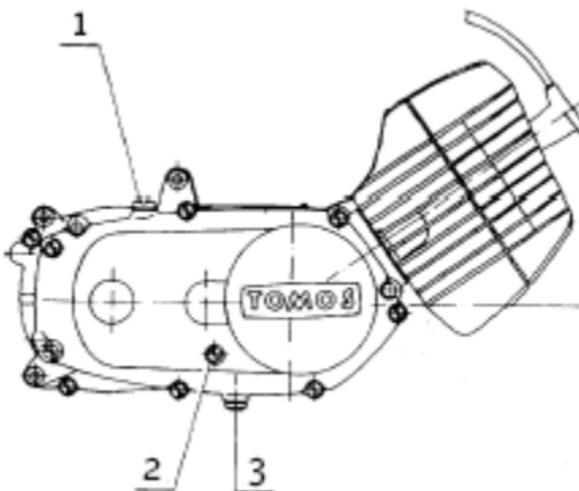


Fig. 8

Fuse replacement (version)

The fuse is located near to the battery. If the fuse is blown, turn the ignition switch (17, Fig. 3) to the position OFF. Replace the fuse with a new one of the correct specification. Return the ignition switch to the ON position and check operation. If the new fuse blows as well, have the electrical circuit examined by an authorized service agent.

Caution: Do not install a fuse with higher capacity than specified. An incorrect fuse could seriously damage the electrical system or even cause a fire.

CLEANING

Fuel System Cleaning (Fig. 9)

As regards the fuel system, periodic cleaning of the main jet, air filter and fuel petcock filter is required. Do not use metal objects to clean the main jet; clean it with an air jet.

Filter – sponge should be washed thoroughly in gasoline. After washing, squeeze gasoline from the sponge (do not brush it) and dry the sponge in a dry air jet.

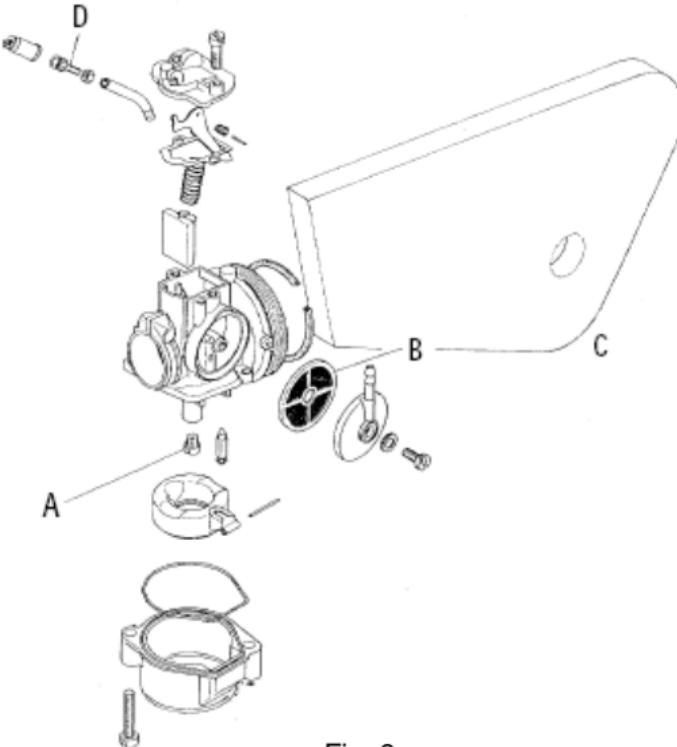


Fig. 9

Exhaust system cleaning (Fig. 10)

The build up of soot in the exhaust system obstructs the free passage of exhaust gas and thereby reduces engine power.

Periodically, clean the cylinder exhaust duct, exhaust pipe inlet opening, piston crown and cylinder compression chamber (Fig.11).

Caution: exhaust system is equipped with catalysts, so do not enter into the exhaust pipe with any tools, wires, do not pour in any fluid, etc. Any such intervention can cause damage of the catalysts.

We strongly suggest making exhaust system cleaning by an authorized service agent.

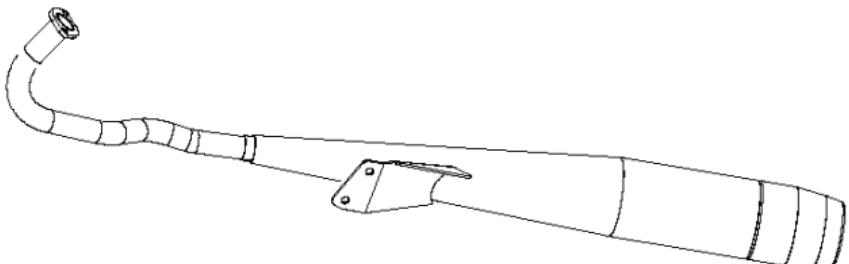


Fig. 10

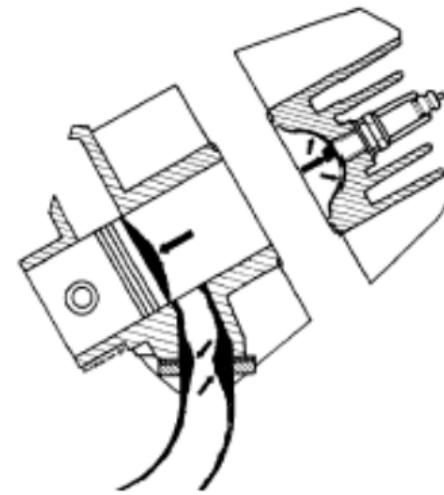


Fig. 11

Vehicle cleaning

Vehicle exterior cleaning is also part of regular maintenance. After washing, wipe the vehicle dry. Protect painted surfaces with paint protection agents. After cleaning, check the operation of the engine, the lights and brakes.

CHECK AND ADJUSTMENTS

Engine Oil Level Check

Check regularly the oil level in the oil tank. Top up as required. Should the warning light fail to extinguish after starting the engine, this means the oil level is low and immediate topping up is required.

Caution:

Electric starter version: the warning light must come on when the ignition key is turned to ON. If does not, the fault should be remedied.

Kick-starter and pedals version: the warning light lights few seconds after starting the engine. If does not, the fault should be remedied.

Bowden Adjustment

Bowden brakes are adjusted by means of the bolts on the wheels hubs. The Bowden is properly set when the brake lever free travel is 10-15 mm and the sleeve – lever gap is approx. 3 mm (Fig. 12). After adjusting, make sure the jam nut is retightened.

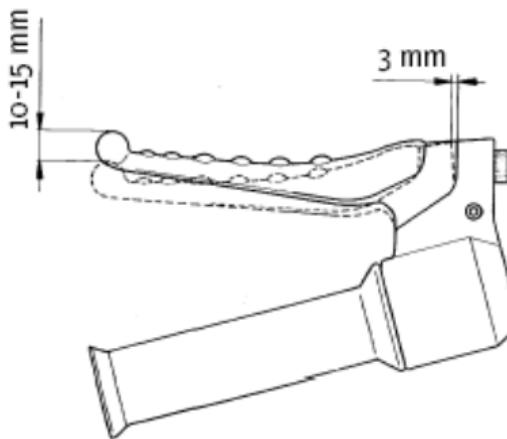


Fig. 12

Transmission Chain Adjustment

The chain tension should be adjusted so that the chain yields 10 mm up or down under pressure (Fig. 13). Adjust the chain tension by spinning the chain tension adjuster (27, Fig. 3) on the rear wheel axle. After the adjustment, retighten the nuts on the both side of axle that were partly released for the adjusting.

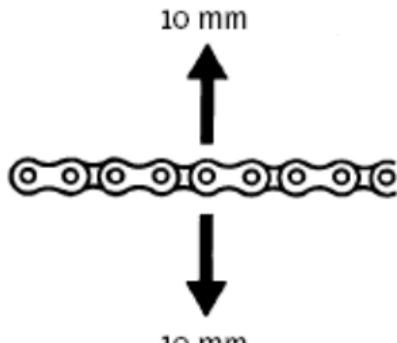


Fig. 13

Bolt and Nut Tightness

Periodically check and retighten as necessary the bolts and nuts of the main vehicle components (wheels, handlebar, shock absorber, rear fork axis, engine to frame bolts, gearbox oil drain plug).

MAINTENANCE SCHEDULE

Interval (km)	1.000	3.000	10.000, 15.000, 20.000	Interval (km)	1.000	3.000	10.000, 15.000, 20.000
Interval (months)	2	6	12, 18, 24	Interval (months)	2	6	12, 18, 24
Oil lubrication							
1. Gearbox oil change	•	•	•	10. Gearbox oil level	•	•	•
2. Bowdens (internal cables)	As necessary			11. Horn and lights	•	•	•
3. Chain	•	•	•	12. Spark plug electrode clearance	•	•	•
Greasing							
4. Rear fork bearing bushes	As necessary			13. Brake operation check and adj.	•	•	•
5. Steering bearings			•	14. Steering bearing clearance	•	•	•
Cleaning							
6. Spark plug	As necessary			15. Wheel bearing clearance	•	•	•
7. Air filter (oiling)	•	•		16. Wheel track		•	•
8. Cylinder head, piston head, exhaust duct	•	•		17. Tire pressure (front and rear 2,2 bar)	•	•	•
9. Cylinder and exhaust pipe	•	•		18. Chain tension	•	•	•
				19. Idle run and throttle	•	•	•
				20. Bolt and nut tightness	•	•	•

BATTERY INSTALLATION (VERSION)

Battery is placed under the luggage carrier. (A, Fig. 14). Release the two bolts (B, Fig.14) and from the bottom side of the luggage carrier pull out the plastic box for battery. Place the battery in the box with the connection shoes upwards. Applying the bolts supplied with the battery, connect the blue color electric cable to the blue color battery connection shoe (-) and the red color electric cable to the red color battery connection shoe (+).
Caution: When placing the battery box under the mudguard, take care that cables are placed into the groove on the left side of the battery box. (C, Fig.15).

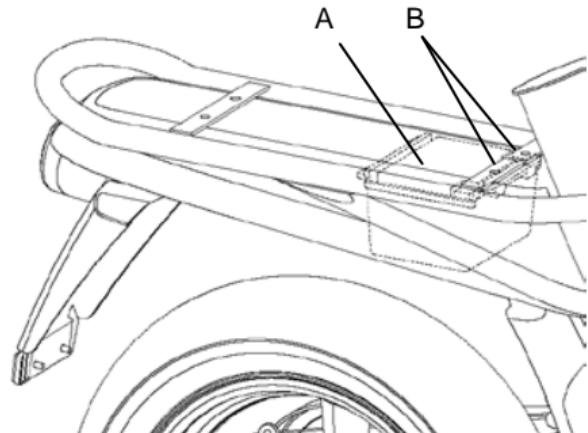


Fig.14

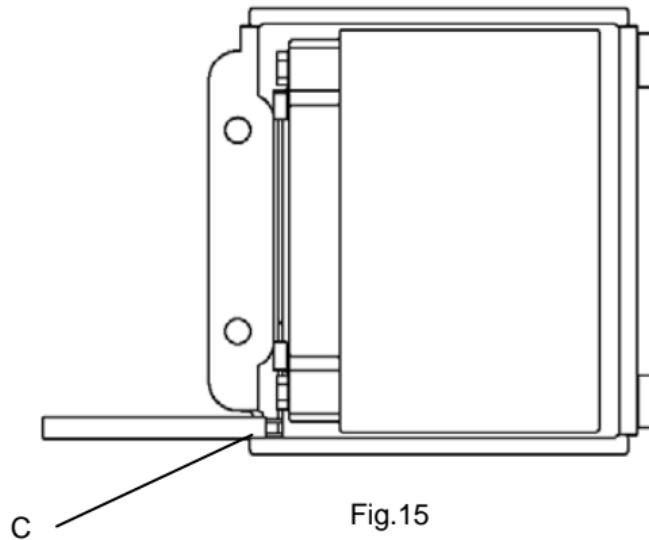


Fig.15

TROUBLESHOOTING

Fuel System Troubles

Possible causes of the engine failing to start or stopping during a ride

Include, but are not limited to:

- Fuel is not supplied to the carburetor:

Check the fuel tank level and the position of the fuel cock.

- Clogged fuel strainers:

Blow the strainers clean.

- Clogged carburetor main jet:

Remove and blow clean.

- Improper use of the choke lever:

Use the lever in accordance with the engine start instructions.

- Low engine idle speed setting:

Using the adjustment bolt (A, Fig. 7), increase the engine speed

Ignition System Troubles

Check the spark. Possible causes of the ignition spark plug failing to produce a spark include:

- Wet spark or electrodes in a short circuit:

- Spark plug electrodes frequently in a short circuit:

Clean soot build-up from the cylinder head and piston head.

- Spark plug electrodes are worn out:

Adjust the electrode clearance according to the specifications, or

Replace the spark plug with a new one.

- Spark plug cap improperly mounted or short-circuiting to the

Ground mass:

Properly mount the cap on the spark plug or replace with a new cap.

- Ignition coil:

Have the trouble examined and remedied by an authorized service agent.

Troubles Causing Reduced Engine Power

Possible causes of reduced engine power and reduced vehicle road performance include:

- Inadequate spark plug or cylinder head tightness:

Tighten the spark plug or the cylinder head nuts.

- Clogged air cleaner on the carburetor:

Wash in gasoline, blow dry and oil lightly.

- Clogged exhaust system: clean.

Gearbox Troubles

- Following the start, the engine runs at idle speed. If opening the throttle fails to engage the clutch:

Release the throttle and attempt to start the vehicle again (the oil is still cold and thicker). When riding, open the throttle gradually to prevent engine jerks. If the problem is frequent, have it repaired by an authorized service agent.

- The clutch slides (particularly in cold weather):

Improper oil type in the gearbox - change with the specified oil.

- The clutch takes excessively long to switch to the second gear or does not switch at all:

Reduced engine power - clean the exhaust silencer;

The clutch is stuck - try to activate the clutch at higher engine revs, with the vehicle propped up on a stand;

Excessive amount of oil in the gearbox - check the oil level.

- After engaging the second gear, the clutch jerks:

Chain is too loose - adjust the chain tension;

Low gearbox oil level - top up to the specified level.

- With the engine shut down, it is difficult to move the vehicle forwards-backwards:

Have the trouble examined by an authorized service agent.